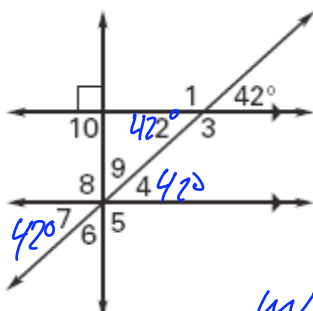


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1. What is your name?

Find the measure of all labeled angles in the diagram.

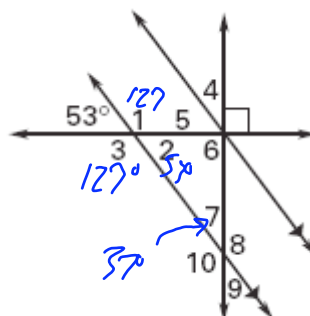
2.



$$\begin{aligned} m\angle 1 &= 138^\circ \\ m\angle 2 &= 42^\circ \\ m\angle 3 &= 138^\circ \\ m\angle 4 &= 42^\circ \\ m\angle 5 &= 90^\circ \\ m\angle 6 &= 48^\circ \\ m\angle 7 &= 42^\circ \\ m\angle 8 &= 90^\circ \end{aligned}$$

$$\begin{aligned} m\angle 9 &= 48^\circ \\ m\angle 10 &= 90^\circ \end{aligned}$$

3.

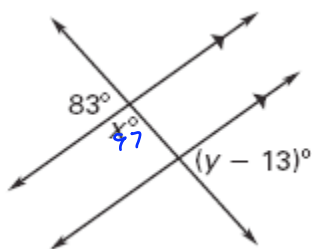


$$\begin{aligned} m\angle 1 &= 127^\circ \\ m\angle 2 &= 53^\circ \\ m\angle 3 &= 127^\circ \\ m\angle 4 &= 37^\circ \\ m\angle 5 &= 53^\circ \\ m\angle 6 &= 90^\circ \\ m\angle 7 &= 37^\circ \end{aligned}$$

$$\begin{aligned} m\angle 8 &= 143^\circ \\ m\angle 9 &= 37^\circ \\ m\angle 10 &= 143^\circ \end{aligned}$$

Find the value of x and y.

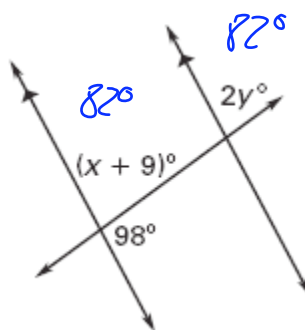
4.



$$x = 97^\circ$$

$$\begin{aligned} y - 13 &= 83 \\ y &= 96^\circ \end{aligned}$$

5.

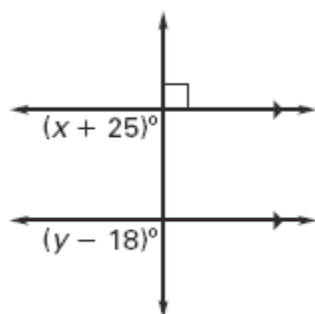


$$x = 73^\circ$$

$$y = 91^\circ$$

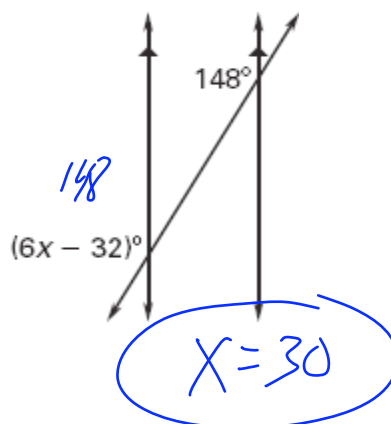
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6.

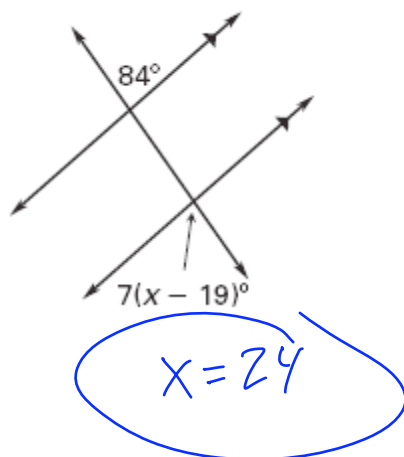


$$x = 65, \quad y = 108^\circ$$

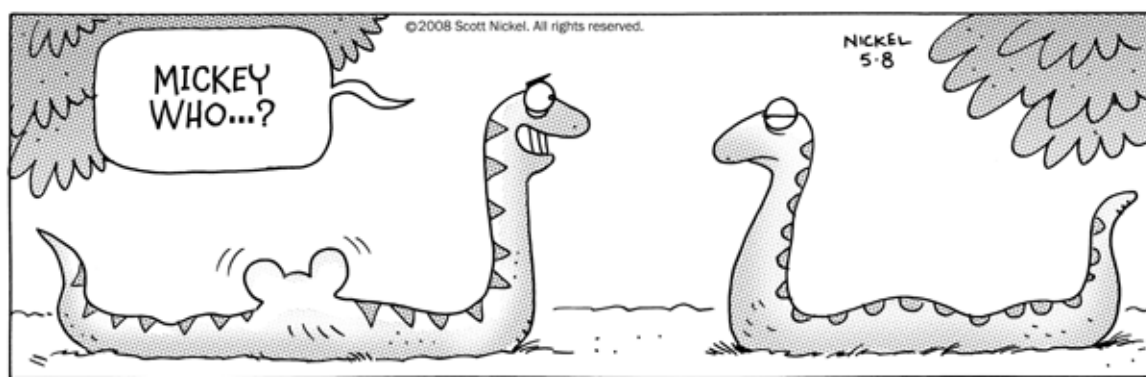
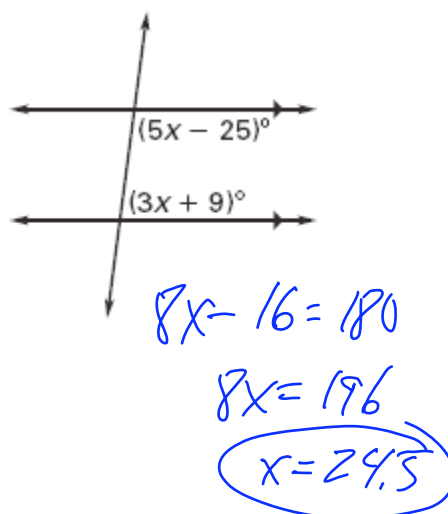
7.



8.



9.

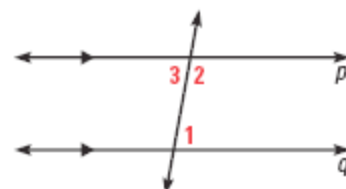


# Geometry      Date\_\_\_\_\_      3.3 Assignment Parallel Lines and Transversal Assignment (pp 143–145)

**10.** Prove: If two parallel lines are cut by a transversal, then the same-side interior angles are supplementary.

**Given:**  $p \parallel q$

**Prove:**  $\angle 1$  &  $\angle 2$  are supplementary.

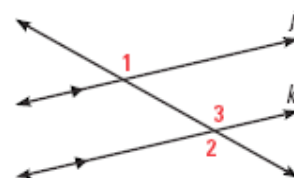


Statement	Reason
	Given
$\angle 1 \cong \angle 3$	
	Definition of congruent angles.
	Definition of a linear pair.
$m\angle 3 + m\angle 2 = 180^\circ$	
	Substitution property of equality.
$\angle 1$ & $\angle 2$ are supplementary.	

**11.** To prove “If two parallel lines are cut by transversal, then the alternate exterior angles are congruent,” first show that  $\angle 1 \cong \angle 3$ . Then show that  $\angle 3 \cong \angle 2$ . Finally show that  $\angle 1 \cong \angle 2$ .

**Given:**  $j \parallel k$

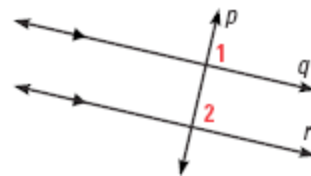
**Prove:**  $\angle 1 \cong \angle 2$



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**12.** To prove “If a transversal is perpendicular to one of two parallel lines then it is perpendicular to the other,” show that  $\angle 1$  is a right angle,  $\angle 1 \cong \angle 2$ ,  $\angle 2$  is a right angle, and finally that  $p \perp r$ .



**Given:**  $p \perp q$

$q \parallel r$

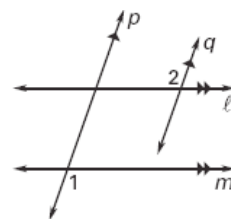
**Prove:**  $p \perp r$

**13.** Write a proof.

**Given:**  $l \parallel m$

$p \parallel q$

**Prove:**  $\angle 1 \cong \angle 2$



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# Geometry Date \_\_\_\_\_ 3.3 Assignment

## Parallel Lines and Transversal Assignment (pp 143-145)

### Review.

$\angle 1$  &  $\angle 2$  are supplementary. Find  $m\angle 2$ . (Chapter 1 Section 6)

14.  $m\angle 1 = 73^\circ$   
 $m\angle 1 = 101^\circ$

107°

17.  $m\angle 1 = 118^\circ$

62°

15.  $m\angle 1 = 111^\circ$

69°

16.

79°

Write the converse of the statement. (Chapter 2 Section 1)

18. If the measure of angle is  $19^\circ$ , then the angle is acute.

If an angle, then it is supplementary

19. I will go to the park if you go with me.

If I go to the park, then you will go with me

20. I will go fishing if I do not have to work.

If I go fishing, then I do not have to work.

Complete the statement given that  $\overline{DE} \perp \overline{DG}$  &  $\overline{AB} \perp \overline{DC}$ .

(Chapter 1 Section 6)

21. If  $m\angle 1 = 23^\circ$ , then find  $m\angle 2$ .

67°

22.  $m\angle 4 = 69^\circ$ , then find  $m\angle 3$ .

21°

23. If  $m\angle 2 = 70^\circ$ , then find  $m\angle 4$ .

70°

